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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/682,168	07/31/2001	Marshall R. Moore	1287.02	9029

21901 7590 08/30/2006

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EXAMINER

CASTELLANO, STEPHEN J

ART UNIT PAPER NUMBER

3727

DATE MAILED: 08/30/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/682,168

Applicant(s)

MOORE, MARSHALL R.

Examiner

Stephen J. Castellano

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 11 July 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1 and 6-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 6-13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

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Claims 2-5 and 14-16 have been canceled. Claims 1 and 6-13 are pending.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1 and 6-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hall in view of McGarvey and Keehan.

Hall discloses an above ground tank for flammable liquid having secondary containment capability comprising an inner steel primary tank 12 (col. 4, lines 25-30), an outer steel secondary tank 20 (see col. 4, lines 33-34), within the interstitial space an inner layer (absorbing layer 70 of a polypropylene cellular sheet) is adjacent to the inner primary tank and an outer layer of fire resistant polymer material (polymer foamed concrete 90, concrete mixed with Elasticell foaming solution). The tank construction is best shown in Fig. 8. Hall discloses the invention except for the insulating foam material. McGarvey teaches insulating foam material (thermal barrier material 117, see col.3, lines 50-57) within the interstitial space between inner and outer walls of an above ground fuel storage tank. It would have been obvious to replace the cellular sheet material 70 of Hall with McGarvey's foam material to provide enhanced insulation without defeating the adsorbing function or permeability characteristics needed by this layer as foamed concrete, STYROFOAM, and urethane foam all allow fluid leakage to permeate therethrough. If it should be deemed that any of the foam materials of McGarvey restrict the passage of fluid, then it would have been obvious to make this modification in situations where thermal insulating is more important than leak detection.

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If it should be deemed that McGarvey lacks a showing of two layers within the interstitial space, then Keehan is applied to show the two interstitial layers as shown in Fig. 9. Inner layer 88 and outer layer 98 form an interstitial space having an inner foam layer 92 and an outer fire resistant layer 94. It would have been obvious to add a foam layer between the inner layer and fire resistant layer to provide energy absorption to protect other layers so that spillage is prevented in a situation where the tank damaged by another moving object (see col. 5, lines 38-40). This is a safety feature.

Re claims 6, 7 and 9, McGarvey teaches these specific materials.

Re claims 8 and 10, It is noted that the Official notice taken in the previous Office action on April 11, 2006 that polymethyl and rubber are well known insulating foam materials has not been challenged. The Official notice is being changed to a prior art admission that polymethyl and rubber are well known insulating foam materials. It would have been obvious to use these materials to provide easier installation as these materials flex easily around sharp bends.

Re claim 11, detector tube 76 is disclosed. It would have been obvious to attach a leak sensor to complete the intended purpose of monitoring the interstitial space.

Re claim 12, emergency vent 46 vents the inner tank

Re claim 13, It is noted that the Official notice taken in the previous Office action on April 11, 2006 that vents for an interstitial space is well known has not been challenged. The Official notice is being changed to a prior art admission that vents for an interstitial space is well known. It would have been obvious to provide such vent to prevent an explosive mixture from becoming trapped within this space. This enhances safety and the risk of catastrophic explosion.

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Applicant's arguments filed July 11, 2006 have been fully considered but they are not persuasive. The extra layer of Hall (Hall has five layers) does not preclude anticipation since claim 1 contains open language, i.e., "comprising ..." to define the invention. Also, applicant's argument that the lightweight concrete insulating layer of Hall can's be replaced with a lighter in weight insulating layer of foam is not persuasive. The use of concrete is not believed to be of such high importance within Hall that the replacement of this concrete with another insulating layer would destroy the main function of providing storage for fuel.

All claims are drawn to the same invention claimed in the application prior to the entry of the submission under 37 CFR 1.114 and could have been finally rejected on the grounds and art of record in the next Office action if they had been entered in the application prior to entry under 37 CFR 1.114. Accordingly, **THIS ACTION IS MADE FINAL** even though it is a first action after the filing of a request for continued examination and the submission under 37 CFR 1.114. See MPEP § 706.07(b). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen J. Castellano whose telephone number is 571-272-4535. The examiner can normally be reached on IFP.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Stephen J. Castellano  
Primary Examiner  
Art Unit 3727

sjc